Editorial

Studying the Internet: A challenge for modern psychology*

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In the past 25 years, the Internet has developed from a modest military data network into a communication space frequented by more than 10 percent of the world's population, a majority of which are from industrialized countries such as the EU, Canada, Finland, Switzerland and the US (http://www.nua.ie). Internet applications range from university teaching to e-commerce and from virtual organizations to online dating. Traditional modes of communication have been replaced, expanded, and enriched by online interactions. In that sense, the psychological study of Internet usage has, over the same time span, evolved from being a study of fringe phenomena to being the study of an important and pervasive aspect of everyday life.

There are several forms in which the Internet is relevant to psychology. One is that the Internet has become the *object* of psychological research. In traditional approaches to studying the Internet, psychologists attempted to predict its impact by making comparisons to other media. Where this strategy was useful insofar as the Internet was similar to traditional communication media, the Internet has evolved to make this approach less feasible:

it functions increasingly less like any other medium. This is due to the fact that the Internet functions both as a social network, connecting people, and as a medium that can be shaped (programmed) to transmit any communication or information that has the potential to be mediated. This means that on the Internet people can fulfill a range of communication functions, from passive reception of persuasive advertising messages, through interpersonal communication, to being a mass communicator. Moreover, it means that as the Internet becomes an increasingly central vehicle in our interactions with others, it affects and transforms our social world and the parameters by which we engage with it. The Internet enables people to maintain existing ties and form new ones, to reinforce existing social networks and identities, and to construct and explore new ones, breaching boundaries of geography, social structure and social stricture. In the context of this, the field is moving away from studying the Internet for its technical features, and it is moving towards the study of the very real psychological and social implications of the virtual world. Increasingly, psychological research in this interdisciplinary field acknowledges the uses and consequences of the Internet in their full breadth: the fact that some are emancipatory, others reactionary, some individualist and disconnective, and others collectivist and connective.

However, for the discipline of Psychology as a whole the Internet also provides a challenging new environment within which research can take place. On the one hand this

is evident in the methodological challenges that we face when using the Internet as a research tool. The Internet has inspired many methodological developments, and poses unique methodological challenges, such as dealing with dropout and large amounts of data. Furthermore, the Internet serves as a new (and massive) laboratory for psychological research. Psychologists use the programmable feature of this network to run their experimental and questionnaire research using the surfing community as participants for a wide variety of studies. Both facets enrich the instruments and reach of psychological research, and empower the discipline.

The aim of the current special issue of the Swiss Journal of Psychology is to provide a forum for these new developments in psychological research. Indeed the research in this issue focuses on each of these three dimensions: a) studying the Internet as an object in itself, focusing in particular on its social-psychological implications, b) introducing new research methods and tools that enable us to do research in this environment, and c) using the Internet as a laboratory for gathering data about a wide range of topics which are usually studied only in the traditional psychology labs.

The Internet as an object of psychological research

The Internet provides a heterogeneous mixture of applications. Hence, research on people's behaviors on the Internet and use of the Internet is a heterogeneous field that can not be completely covered in one journal issue. Nevertheless, this issue summarizes a nice sample of papers addressing different aspects of this field: a) research on predictors of Internet use, b) research on Internet use itself and individuals' perceptions of the Internet use, and c) research on the consequences of Internet use. Each of the three articles in this section addresses one of these topics. Jackson, von Eye, Biocca, Barbatsis, Fitzgerald, and Zhao study the determinants of Internet use. In a longitudinal study, they followed underprivileged families during the first six months online and assessed the influence of socio-economical variables, personality variables, and cognitive styles on the frequency of Internet use. Utz focuses on the development of social relations online in MUDs (Multi User Domains). She engages in the issue of whether the Internet is primarily a space of individuals interacting with individuals, or whether it is one where strong social identities exist, which inform and influence individuality. Finally, Waniek, Brunstein, Naumann, and Krems report an experiment on how structural informa-

tion in the design of Web pages may facilitate mental representations built up by readers. In their experiment they were able to show that there is an influence of text structure information on the interaction between text structure representation and text content representation (the *situation model*) in reading hypertext.

Studying navigation and reducing sampling problems

Two articles address important limitations to the existing tools for conducting online research. Navigation behavior in hypertext documents – such as Web pages – is very easy to record, but the large amount of data and the specifics of measures commonly used in hypertext research require sophisticated instruments for analysis. Richter, Neumann, and Noller present a free online tool for the analysis of log files resulting in standard descriptions of user navigation in hypertext. Schütz and Machilek address a problem that results from the decentralized structure of the Internet: the difficulty to achieve representative sampling of online information. They suggest and evaluate a procedure for the sampling of private homepages.

Methods for research on the Internet

Two further papers make use of the Internet as a worldwide psychology laboratory, and they reflect on the value of the Internet as a platform for psychological studies. The Internet allows for easy access to participants from different backgrounds and, thus, provides researchers with the opportunity to test predictions in non-student samples. Preckel and Thiemann made use of this in their validation of a high potential intelligence test-a valuable application because the Internet gave them access to a large sample ($N = 204$) of highly intelligent individuals. They report a comparison between this online sample and a traditional paper-and-pencil sample and discuss differences between the two samples, and the implications for this type of Internet use. Shohat and Musch present a field-experiment on assessment of prejudice through economic effects that was run in a series of online auctions. This provides an indication for how new forms of economic interaction on the Internet can serve to address traditional research question in an ecologically valid and rich way, combining the strengths of experimental and field research in one.

In sum, the articles in this volume speak to the diversity of new questions which the Internet poses for psycho-

logical theory and research, and they alert the reader to the rich and powerful possibilities offered by this medium to address these new questions, and an even broader range of issues aside. In this sense, the authors have done an excellent job in exposing to the readership of the Swiss Journal of Psychology that the Internet has a lot to offer to Psychology. By this, we hope that the exciting and dynamic developments charted in this special issue will inform and inspire future research.

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